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Title Page

Title

Continuous video recording in the emergency department

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At the Royal Infirmary of Edinburgh in Scotland, we video record all patients who are admitted into the emergency department (ED) resuscitation rooms as part of our continuous video audit system. Since installation in late-2015, numerous EDs from across the UK and abroad have repeatedly asked us the same questions: how did you do this; how did you 'get past ethics'; how do you get consent.

The consistent problem for EDs wishing to integrate video is not the lack of supportive studies reporting video use; video-based studies have assessed the full spectrum of ED care, including communication during consultations,¹ family-staff interactions² and time-critical resuscitations.³ The problem is that there is scarce guidance on how EDs can navigate the processes that will allow them to progress with their own programme of work.⁴

Here, we report on our experience of the practical issues associated with video implementation, such as legality, ethics, data protection and staff acceptance, as these are the issues that are regularly cited as reasons why video is not utilised.^{5 6} By focussing on these, we can start to answer the questions above that are pertinent to all EDs which pursue video audit and move towards video becoming an essential part of care delivery.

Why video?

Video assessment has consistently shown to be a precise method of improving in clinical practice,^{7 8} as well as offering a level of analytical detail that is difficult to achieve with traditional observational techniques. For example, a study measuring the standard of paediatric trauma resuscitations found that compared with video assessment, routine medical record review only detected 20% of errors.⁹ Similarly, whilst video review of airway management in 48 patients identified 28 performance deficiencies, standard anaesthetic

records coupled with an anaesthesia quality assurance report only identified 2.¹⁰ Video is the next step in measuring how we deliver care.¹¹

Managing staff concerns

The prospect of video recording clinical care in a busy ED is daunting for most staff. Prior to implementation, we found that staff initially reported that they would feel exposed, particularly in challenging resuscitation situations. Video recording will only be supported by staff and approval groups if its intended use, implementation and governance frameworks ensure its focus is departmental learning as opposed to individual or punitive assessment.

To ensure this we organised a series of presentations to the clinical teams in the department, covering all clinical and non-clinical staff. Furthermore, we reached out to other specialities that visit the department, such as critical care, cardiology and stroke. Drop-in sessions gave staff the opportunity to voice any concerns in private. If the views of staff are thoroughly canvassed and their concerns addressed, video is generally accepted as a useful tool.^{12 13}

We set out a video policy that aligned with our department's ongoing quality improvement work, whereby a small group of ED staff would form a Video Audit Group (4 – 6 people) and review cases of interest, either individually or as a team. These were defined as cases where specific learning points could be fed back into department meetings or training days, informed by national and local priorities, such as the standard of stroke, cardiac arrest and trauma care. Each clinician initially set aside approximately 2 hours per week for video review.

How to manage video data

In the UK, video systems and the data they collect are subject to the same comprehensive provisions of the Data Protection Act (DPA)¹⁴ as other non-video sources, broadly set out in Schedule 1 of the Act. In short, data should be processed for specific lawful purposes, it should not be kept for longer than necessary and appropriate technical and organisational measures should be taken to ensure it is secure.

We proposed a fixed camera installation from Scotia UK PLC called smots™ that would satisfy the provisions of the DPA (Figure 1).¹⁵ Video data is transmitted to a secure server behind 2 card-entry door systems within the ED which feeds footage into a locked viewing room. As this is on an isolated 'offline' network, only members of the department's Video Audit Group can access footage through a password protected viewing terminal. An automatic deletion loop is set for 7 days, with a secondary deletion loop set for 180 days to allow specific learning cases to be analysed within smots™. This formed part of a governance framework which was provided to the Caldicott Guardian and Data Protection Officer who were satisfied that an appropriate data handling system was in place.

Outside the UK, other countries have equivalent data protection laws that require the same degree of careful consideration, otherwise video implementation will fail. For example, after the passing of stricter privacy legislation in the USA, combined survey data reveal that the number of EDs and trauma centres which were video recording dropped from 45% to 13%.¹⁶

¹⁷ This, however, should not be viewed as a permanent barrier to video; 98% of centres that reported video recording traumas in the USA obtained no form of patient or family consent, yet no site had any subsequent patient confidentiality, consent or medico-legal problems.⁵

Similarly, in Australia, 96% of parents were satisfied with the provisions put in place to video record challenging neonatal resuscitation.¹⁸ If a robust data system is put in place, approval committees, staff and patients are supportive.

Ethico-legal issues

A common theme that we have heard from across the UK is that when presented with a proposal for a live video system, ethico-legal services respond negatively. We found it helpful to have sensitising conversations with the ethico-legal departments long before we set out any documentation. We asked our approval groups for their input and amended our governance documents accordingly. We attended executive level meetings to share our vision and hear their thoughts. These conversations lasted about 12 months, however at the end of this process we had a department and hospital which were far more receptive to a video system.

Our robust governance documents detailed what video would be used for, how it would be collected and stored, who would have access and what safeguards were in place. These were then discussed with the Research Ethics service and the Central Legal Office (CLO) who are the in-house solicitors to the Scottish Public sector.

Our Research Ethics service advised that as our system would solely be used for service evaluation and audit, further ethical review would not be required. This aligns with guidelines administered by NHS Health Research Authority which stipulate that service evaluation and audit do not require ethical approval¹⁹. Internationally, groups who are video recording have reported being subject to the same processes.²⁰ In Australia and the USA for example, ethical committee approvals have not been required to video record emergency care when it used for quality assurance and clinical audit.^{21 22} Our experience, coupled with international work, suggests that video does not need to equate with research. Ensuring a video system aligns with service evaluation or audit, and building this into existing departmental improvement efforts, will influence how a proposal is received.

Locally, we outlined that video did not form part of the patient record to comply with the DPA, thus we would not require consent. The CLO were satisfied with the legality of the system, highlighting the overlap between video audit systems and existing continuous CCTV. In total, the process of implementation – from idea conception to video camera installation – took approximately 18 months.

Video in routine care delivery

Video use in medicine is 70 years old.²³ Despite its evident advantages, EDs struggle to implement this as part of standard care delivery. Our view from here is not a prescription, nor is it the only path to success. We offer this as a much needed practical guide for EDs and other clinical services who can use this as a template for embedding video within their department.

Contributorship statement

AL, DL and GC contributed to the conception and design of this article. All authors contributed to drafting and critical revisions of the manuscript. All authors approved the final version for submission.

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Conflict of interests

No conflict of interest has been declared by the author(s).

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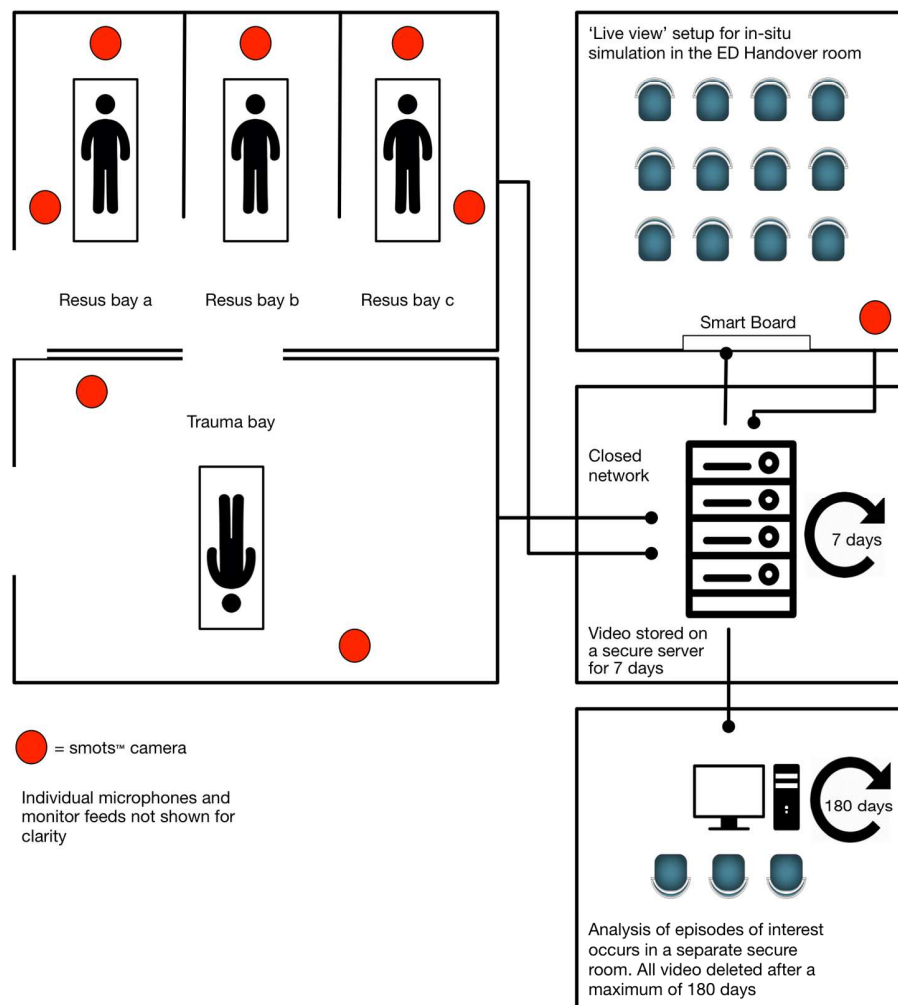


Diagram of video audit system infrastructure

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